CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

TO: Russell City Energy City Proof of Services List
FROM: Jeri Zene Scott, Project Manager
DATE: April 4, 2007
SUBJECT: Third Round Data Requests

It has been brought to our attention that the Third Round of Data Requests (#71-79) for the Russell City Amendment No. 1 filed on April 2, 2007, contained a numbering error. Specifically, the filing had duplicate numbering, numbers 71 and 72 are included in the Second Round of Data Requests. The attached copy contains the same information as the first filing, only the numbering has changed. Please discard the first filing and use the attached in its place, and accept our apologies for any inconvenience this may have caused you.

Attachment

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

April 4, 2007

Michael A. Argentine, P.E.
Director, Project Development
Calpine
4160 Dublin Blvd.
Dublin, CA 94568-3139

Dear Mr. Argentine,

RE: THIRD ROUND DATA REQUESTS FOR THE RUSSELL CITY ENERGY CENTER AMENDMENT (01-AFC-7C)

Pursuant to Title 20, California Code of Regulations, section 1769, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to more fully understand whether implementation of the modifications proposed in the Russell City Energy Center Amendment will: 1) allow the project to operate in a safe, efficient and reliable manner, 2) comply with applicable laws, ordinances, and regulations, or 3) result in significant environmental impacts.

This set of data requests (#73-81) is being made in the area of air quality. Written responses to the enclosed data requests are due to the Energy Commission staff on or before April 30, 2007, or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner John L. Geesman, Presiding Committee Member for the Russell City Energy Center Petition to Amend, and to me, within 10 days of receipt of this letter. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716).

If you have any questions, please call me at (916) 654-4228 or E-mail me at jscott@energy.state.ca.us.

Sincerely,

Ms. Jeri Zene Scott
Compliance Project Manager
Energy Facilities Siting Division

Enclosures

Russell City Energy Center
(01-AFC-7C)
DATA REQUESTS

Technical Area: Air Quality
Author: Tuan Ngo

BACKGROUND: ESTIMATED FACILITY EMISSIONS

The Petition to Amend section 3.1.1.6, contains estimates of the facility's air contaminants emissions. This section references Appendix 3.1A for some of the assumptions used in each calculation step. Appendix 3.1A contains numerous tables showing the results of the calculations of the facility's emissions without detailed explanations or a discussion of the assumptions used. As a result, staff cannot reproduce the facility's emissions that are listed throughout Section 3.1.1.6. Staff has asked for detailed calculations in the December 22, 2006 Data Requests. The January, 2007 Data Responses did not respond to staff's Data Request, but refer to Appendix 3.1A. Staff cannot reproduce the facility's emissions from the data contained in Appendix 3.1A.

DATA REQUEST

73. Please provide actual calculations, assumptions, and methods used to estimate the facility's daily and annual emissions of NOx, VOC, SOx, CO, and PM10/PM2.5 that are shown in Tables 3.1-3 through 3.1-5.

74. Table 3.1-3 lists the proposed maximum permitted VOC emissions for each turbine as 2.82 lbs/hour, which corresponds to a VOC stack concentration of 2 ppm@15%O2 (Data Response #6, pp. 10). Table 3.1A-4 (in the appendix) shows each turbine's hourly VOC emissions are equal to 5.6 lbs/hour, but still at a 2 ppm VOC concentration. Please explain the differences between the two emission rates (i.e., the lbs/hr values).

BACKGROUND: ADEQUACY OF MITIGATIONS

The Petition to Amend asked that the project be analyzed without a specific number of start-up and shut down events or hours of operation. Rather, the facility would be certified with specific conditions that restrict the operation hours of the facility based solely on the annual emission limits of NOx, CO, VOC, SOx and PM10/PM2.5.

To satisfy District rules, the project owner is proposing that the emissions impacts of NOx and VOC would be mitigated with emission reduction credits of 154.8 tons of NOx and 28.5 tons of VOC (for ozone precursors). To satisfy the CEQA requirements for mitigation of PM10/2.5 and SOx emission impacts, the project owner is proposing to surrender SOx ERCs (SOx for SOx and SOx as an interpollutant trade for PM10/2.5). However, the project owner is only proposing to mitigate one-half of the facility's annual PM10/PM2.5 emissions. There are no SOx ERC's submitted thus far for either SOx or PM10/2.5, and the proposed interpollutant trading ratio may not be appropriate for the project location. As mentioned earlier, staff had difficulty duplicating the project owner submitted facility emission limits, and has estimated the facility potential emissions to be 2,215 lbs/day of NOx, 510 lbs/day of VOC, 300 lbs/day of SOx, and 500 lbs/day of

PM10/PM2.5. The submitted emission reduction credits thus far, only equal to 848 lbs/day of NOx, and 156 lbs/day of VOC. Thus for NOx and VOC, only 30 percent of daily ozone precursor emissions have been identified for mitigation.

75. Please identify additional NOx and VOC emission reduction credits to fully mitigate the project's daily ozone precursor impacts.

76. If additional emission reduction credits are not being considered, please identify other mitigation measures to reduce the daily emission liability to lessen the facility's impacts on the environment. These can be new technologies that are designed to reduce the start-ups or start-up times (e.g., Rapid Start Process by GE or Benson Once-Through boiler design by Westinghouse). Alternatively, conditions on scheduling of electrical delivery so that simultaneous start-up of both turbines, or excessive start-up events during ozone season can be avoided could be used to reduce daily emissions and impacts.

77. This facility employs the Westinghouse 501FD turbines, which are the same turbines employed in the Sutter Energy Center that are currently owned and operated by Calpine. According to available source test results, these turbines, even without improvement to reduce start-up times, have met much lower start-up and shut down emission limits than are requested in this amendment request. Please provide explanations of why such high start-up and shut down emission limits are being proposed.

78. Please provide an approximate schedule when SOx and PM10/PM2.5 emission reduction credits, which will mitigate the project's emission impacts, will be identified and then provided.

79. Table 3.1-5 identifies that the project PM10/PM2.5 emissions would be limited to 86.8 tons/yr, and Calpine has proposed to only mitigate the project PM10, PM2.5 and SOx emissions during the fall and winter months. Thus the proposed revised condition AQ-58 only identifies 43.4 tons of PM10/PM2.5 liabilities (fall and winter, or half a year) to be mitigated. The January 2007 Data Response re-stated that Calpine would only provide 50 percent of the project's annual PM10/PM2.5 emissions liability. For any one day, the project can emit 500 lbs of PM10/PM2.5 and the committed emission reduction credits for mitigation would only be approximately 238 lbs/day. Thus, for any one day more than 50 percent of the project daily emissions are not mitigated. Please identify additional emission reduction credits for PM10/PM2.5.

80. Staff asked in the December 22, 2006 Data Request for an analysis demonstrating that the use of the proposed 3 to 1 SOx for PM10 trading ratio would mitigate the project's new PM10/PM2.5 emissions impacts. Calpine has not provided such analysis; instead, they cited other licensed projects that use the same trading ratio to request approval for the use of such ratio. Because each area and region can have different atmospheric chemistry and emissions inventory, a previous SOx to PM trading ratio may not be appropriate for use in this case. Please provide an analysis calculating a SOx for PM10 interpollutant trading ratio for this project or demonstrating that the proposed 3 to 1 SOx for PM trading ratio would mitigate this project’s PM10/PM2.5 emissions impact.

BACKGROUND: CUMULATIVE IMPACTS ANALYSIS

Staff has received the cumulative impact analysis on March 26, 2007. Staff reviewed the analysis and concluded that the analysis is not complete as it does not contain cumulative impacts from the construction of the project, the Eastshore facility, and the construction of the Interstate 880 and Route 92 interchange.

DATA REQUEST

81. Because this facility and the recently submitted Application for Certification of the Eastshore facility have approximately the same construction timeline. Please include in the cumulative impact analysis the construction impacts of both facilities, and of the construction of Interstate 880 and Route 92 interchange that also may occur during the RCEC construction time frame.